



Polypropylene Daplen™ ED117AE

Polypropylene TPO Compound

Description

Daplen ED117AE is a 10% mineral filled elastomer modified polypropylene compound intended for injection moulding.

This material has excellent balanced mechanical properties and gives a good surface quality.

Applications

Daplen ED117AE has been developed especially for the car industry to be used in automotive exterior parts.

Bumpers
Automotive exterior applications

Special features

Daplen ED117AE has been designed especially for outstanding paint adhesion.

Excellent performance in the steam jet test

Suitable for applications, which require low expansion over a broad temperature scale

Physical Properties

| Property | Typical Value | Test Method |
|---|-----------------------|-----------------|
| Data should not be used for specification work | | |
| Density | 970 kg/m ³ | ISO 1183 |
| Melt Flow Rate (230 °C/2,16 kg) | 9 g/10min | ISO 1133 |
| Flexural Modulus (2 mm/min) | 1.300 MPa | ISO 178 |
| Flexural Strength | 23 MPa | ISO 178 |
| Tensile Modulus (1 mm/min) | 1.250 MPa | ISO 527-2 |
| Tensile Strain at Yield (50 mm/min) | 5 % | ISO 527-2 |
| Tensile Strain at Break (50 mm/min) | > 80 % | ISO 527-2 |
| Tensile Stress at Yield (50 mm/min) | 18 MPa | ISO 527-2 |
| Heat Deflection Temperature A (1,80 MPa) | 49 °C | ISO 75-2 |
| Heat Deflection Temperature B (0,45 MPa) | 92 °C | ISO 75-2 |
| Vicat softening temperature (10 N) | 128 °C | ISO 306 |
| Vicat softening temperature (50 N) | 43 °C | ISO 306 |
| Coefficient of Thermal Expansion (-30 °C/80 °C) | 80 µm/mK | Borealis Method |
| Charpy Impact Strength, notched (23 °C) | 50 kJ/m ² | ISO 179/1eA |
| Charpy Impact Strength, notched (-20 °C) | 8 kJ/m ² | ISO 179/1eA |
| Charpy Impact Strength, notched (-30 °C) | 4,5 kJ/m ² | ISO 179/1eA |
| Charpy Impact Strength, unnotched (23 °C) | No break | ISO 179/1eU |
| Charpy Impact Strength, unnotched (-20 °C) | No break | ISO 179/1eU |
| Izod Impact Strength, notched (23 °C) | 55 kJ/m ² | ISO 180/1A |
| Izod Impact Strength, notched (-20 °C) | 5,6 kJ/m ² | ISO 180/1A |
| Hardness, Ball Indentation 132 N/10 s | 33 MPa | ISO 2039 |

Values determined on standard injection moulded specimens conditioned at 23°C and 50% relative humidity after at least 96 hours storage time.



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Application Related Tests

| Property | Typical Value | Test Method |
|---|--|-----------------|
| | Data should not be used for specification work | |
| Mould average Shrinkage (disk) ¹ | 1,0 % | Borealis Method |
| Post Shrinkage (2h/90 °C) ¹ | 0,15 % | Borealis Method |

¹ VALUES MAY ONLY BE USED AS INDICATION, AND SHOULD NOT BE USED DIRECTLY IN MOULD DESIGN WITHOUT PRIOR VALIDATION

Processing Techniques

The actual conditions will depend on the type of equipment used.

Injection Moulding

This product is easy to process with standard injection moulding machines. To avoid residual humidity from transport or storage, the material should be pre-dried approximately 2h at 80°C. Following parameters should be used as guidelines:

| | |
|---------------------|----------------|
| Feeding temperature | 40 - 80 °C |
| Mass temperature | 220 - 260 °C |
| Back pressure | Low to medium |
| Holding pressure | 30 - 60 MPa |
| Mould temperature | 30 - 50 °C |
| Screw speed | Low to medium |
| Flow front speed | 100 - 200 mm/s |

Storage

Daplen ED117AE should be stored in dry conditions at temperatures below 50°C and protected from UV-light. Improper storage can initiate degradation, which results in odour generation and colour changes and can have negative effects on the physical properties of this product.

Safety

The product is not classified as a dangerous preparation.

Please see our Safety Data Sheet for details on various aspects of safety of the product, for more information contact your Borealis representative.

Recycling

The product is suitable for recycling using modern methods of shredding and cleaning. In-house production waste should be kept clean to facilitate direct recycling.

Please see our Safety Data Sheet for details on various aspects of recovery and disposal of the product.



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Disclaimer

The product(s) mentioned herein are not intended to be used for medical, pharmaceutical or healthcare applications and we do not support their use for such applications.

To the best of our knowledge, the information contained herein is accurate and reliable as of the date of publication, however we do not assume any liability whatsoever for the accuracy and completeness of such information.

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It is the customer's responsibility to inspect and test our products in order to satisfy itself as to the suitability of the products for the customer's particular purpose. The customer is responsible for the appropriate, safe and legal use, processing and handling of our products.

No liability can be accepted in respect of the use of Borealis' products in conjunction with other materials. The information contained herein relates exclusively to our products when not used in conjunction with any third party materials.